

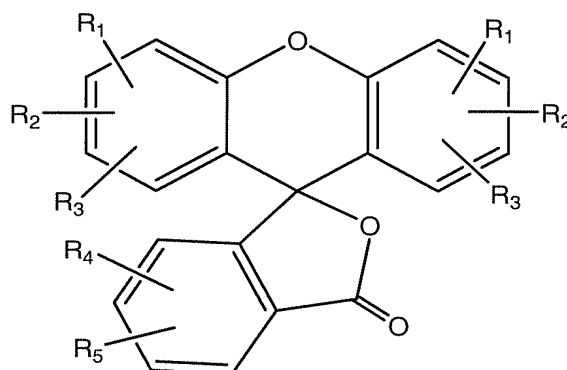
AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-26. (Canceled)

27. (Currently Amended) A method for preparing phthaleins, wherein the residual impurities have been removed, having the general formula (I):



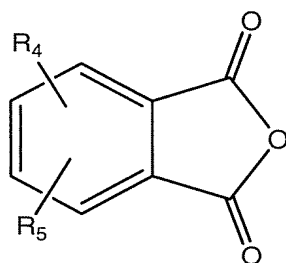
(I)

wherein ~~R1, R2, R3, R4 and R5~~ R1, R2, R3, R4 and R5, which are identical to or different from one another, are selected from the group consisting of hydrogen, hydroxyl, halogen, acetyl, amino, phosphate, nitro, sulfonate, carboxyl, alkylcarboxyl having from 2 to 30 carbon atoms, alkyl having from 1 to 30 carbon atoms, cycloalkyl having from 3 to 12 carbon atoms, alkyloxy having from 1 to 30 carbon atoms, haloalkyl having from 1 to 30 carbon atoms, hydroxyalkyl having from 1 to 30 carbon

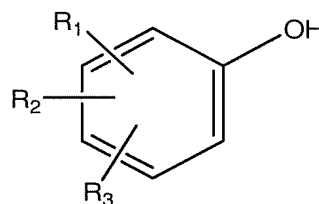
atoms, alkyl ester having from 2 to 40 carbon atoms, nitroalkyl having from 1 to 30 carbon atoms, carboxyalkyl having from 2 to 30 carbon atoms, aminoalkyl having from 1 to 30 carbon atoms, sulfoalkyl having from 1 to 30 carbon atoms, aryl, aryloxy, arylalkyl, haloaryl, aryl ester, succinimidyl ester, isothiocyanate, maleimide, iodoacetamide, haloacetamide, chlorosulfonic, purine or pyrimidine bases, monosaccharides, preferably hexoses or pentoses, oligosides and polysides, polypeptides, proteins and phospholipids,

~~R3 and R5~~ R₃ and R₅ are not hydrogen when ~~R1~~ R₁ is a group -CH₂-CH₂-COOH, ~~R2~~ R₂ is a hydroxyl group and ~~R4~~ R₄ is a group -COOH,

wherein a phthalic anhydride derivative of formula (II) is condensed with a phenol or naphthol compound of formula (III)



(II)



(III)

in which ~~R1, R2, R3, R4 and R5~~ R₁, R₂, R₃, R₄ and R₅ have the same meanings as above, the condensation being carried out in a solvent consisting of an organic acid ester of formula IV



wherein R_6 is selected from the group consisting of hydrogen, alkyl having from 1 to 30 carbon atoms, cycloalkyl having from 3 to 12 carbon atoms, haloalkyl having from 1 to 30 carbon atoms, hydroxyalkyl having from 1 to 30 carbon atoms, nitroalkyl having from 1 to 30 carbon atoms, aryl, aryloxy, alkylaryl, arylalkyl, substituted arylalkyl, haloaryl, aryl ester, alkyl ester having from 2 to 40 carbon atoms, and alkyloxy having from 1 to 30 carbon atoms, R_7 being selected from the group consisting of alkyl having from 1 to 30 carbon atoms, cycloalkyl having from 3 to 12 carbon atoms, haloalkyl having from 1 to 30 carbon atoms, hydroxyalkyl having from 1 to 30 carbon atoms, nitroalkyl having from 1 to 30 carbon atoms, aryl, aryloxy, alkylaryl, arylalkyl, substituted arylalkyl, haloaryl, aryl ester, alkyl ester having from 2 to 40 carbon atoms, or alkyloxy having from 1 to 30 carbon atoms.

28. (Previously Presented) The method as claimed in claim 27, wherein the compound of formula (III) is selected from the group consisting of resorcinol, orcinol, naphthol, pyrogallol, alkylaminophenol and arylaminophenol.

29. (Canceled)

30. (Previously Presented) The method as claimed in claim 27, wherein the organic acid ester is selected from the group consisting of methyl benzoate, ethyl benzoate, propyl benzoate, butyl benzoate, methyl heptanoate, ethyl heptanoate, propyl heptanoate, butyl heptanoate, methyl octanoate, ethyl octanoate, propyl octanoate, butyl octanoate, methyl laurate, ethyl laurate, propyl laurate, butyl laurate, methyl myristate, ethyl myristate, propyl myristate, butyl myristate, methyl palmitate,

ethyl palmitate, propyl palmitate, butyl palmitate, and mixtures thereof.

31. (Previously Presented) The method as claimed in claim 27, wherein the condensation reaction is carried out at between 150°C. and 250°C., optionally under pressure.

32. (Previously Presented) The method as claimed in claim 27, wherein the reaction is carried out in the presence of a catalyst selected from the group consisting of Lewis acids, such as ZnCl_2 or AlCl_3 , Brönsted acids such as H_2SO_4 or polyphosphoric acid.

33. (Previously Presented) The method as claimed in claim 32, wherein the catalyst is an alkali metal hydrogen sulfate.

34. (Previously Presented) The method as claimed in claim 33, wherein the catalyst is potassium hydrogen sulfate (KHSO_4) or sodium hydrogen sulfate (NaHSO_4).

35. (Previously Presented) A method for acidifying the product resulting from the condensation of a phthalic anhydride derivative of formula (II) with a phenol or naphthol compound of formula (III), the formulae (II) and (III) being those of claim 27, wherein the reaction is carried out in an anhydrous organic medium, by the addition of a strong acid or one of its precursors, selected from the group consisting of sulfuric acid, hydrochloric acid, hydrobromic acid, hydrofluoric acid, hydriodic acid,

polyphosphoric acid, pyrophosphate (P_2O_5), and mixtures thereof, the acidification being carried out until the phthalein crystals resulting from the condensation are converted to phthalein crystals having a different structure.

36. (Canceled)

37. (Previously Presented) The method as claimed in claim 35, comprising a step consisting in washing the product obtained after acidification, said washing step being carried out with a washing solution selected from the group consisting of water, alcohols, ketones, ethers and halogenated solvents, pure or as a mixture, until the crystals are reconverted to the structure that they had before the acidification reaction.

38. (Previously Presented) A method for preparing a fluorescein having a purity such that its content of each of the by-products of the reaction is less than or equal to 0.2%, the sum of the contents of each of these by-products being less than or equal to 0.5%, said method comprising the following successive steps:

condensing phthalic anhydride with resorcinol, in a solvent consisting of an ester of an aliphatic or aromatic organic acid, in the presence of a catalyst selected from the group consisting of Lewis acids or Brönsted acids, said ester of an aliphatic or aromatic organic acid having the formula IV



wherein R_6 is selected from the group consisting of hydrogen, alkyl having from 1 to 30 carbon atoms, cycloalkyl having from 3 to 12 carbon atoms, haloalkyl

having from 1 to 30 carbon atoms, hydroxyalkyl having from 1 to 30 carbon atoms, nitroalkyl having from 1 to 30 carbon atoms, aryl, aryloxy, alkylaryl, arylalkyl, substituted arylalkyl, haloaryl, aryl ester, alkyl ester having from 2 to 40 carbon atoms, and alkyloxy having from 1 to 30 carbon atoms, R_7 being selected from the group consisting of alkyl having from 1 to 30 carbon atoms, cycloalkyl having from 3 to 12 carbon atoms, haloalkyl having from 1 to 30 carbon atoms, hydroxyalkyl having from 1 to 30 carbon atoms, nitroalkyl having from 1 to 30 carbon atoms, aryl, aryloxy, alkylaryl, arylalkyl, substituted arylalkyl, haloaryl, aryl ester, alkyl ester having from 2 to 40 carbon atoms, or alkyloxy having from 1 to 30 carbon atoms,

suspending the red-colored crystals obtained in the preceding step in an anhydrous solvent selected from the group consisting of alcohols such as absolute ethanol, ketones such as acetone, ethers, halogenated solvents, or mixtures thereof,

acidifying the suspension thus obtained by the addition of a strong acid or one of its precursors, selected from the group consisting of sulfuric acid, hydrochloric acid, hydrobromic acid, hydrofluoric acid, hydriodic acid, polyphosphoric acid, pyrophosphate (P_2O_5), and mixtures thereof, until the red-colored crystals are converted to yellow-colored crystals,

washing the crystals obtained with a washing solution selected from the group consisting of water, alcohols, ketones, ethers and halogenated solvents, pure or as a mixture, this washing being continued until the yellow-colored crystals are reconverted to red-colored crystals.

39. (Previously Presented) The method for preparing a fluorescein as claimed in claim 38, having a purity such that its content of each of the by-products of the

reaction is less than or equal to 0.1%.

40. (Previously Presented) The method for preparing a fluorescein as claimed in claim 38, wherein the solvent used in the condensation reaction is the ethyl or methyl benzoate or ethyl or methyl palmitate.

41. (Currently Amended) The method for preparing a fluorescein as claimed in claim ~~37~~ 38, wherein the catalyst used for the condensation reaction is an alkali metal hydrogen sulfate.

42. (Currently Amended) The method for preparing a fluorescein as claimed in claim ~~40~~ 41, wherein the catalyst is potassium hydrogen sulfate or sodium hydrogen sulfate.

43. (Currently Amended) The method as claimed in claim ~~37~~ 35, wherein the acidification is carried out by ~~sparging gaseous~~ addition of hydrochloric acid into the phthalein suspension ~~or by the action, on this phthalein, of hydrochloric acid in solution in the~~ in an anhydrous organic solvent~~[[,]] preferably an alcohol, a ketone, an ether or a halogenated solvent, used alone or as a mixture, even more preferably isopropanol, absolute ethanol or acetone, pure or as a mixture.~~

44. - 54. (Canceled)

55. (New) The method of claim 43, wherein the addition of hydrochloric acid is effected by sparging gaseous hydrochloric acid into the phthalein suspension.

56. (New) The method of claim 43, wherein the anhydrous organic solvent is an alcohol, ketone, ether, halogenated solvent, or a mixture thereof.

57. (New) The method of claim 56, wherein the anhydrous organic solvent is isopropanol, absolute ethanol, acetone, or a mixture thereof.

58. (New) The method of claim 38, wherein the acidification is carried out by addition of hydrochloric acid into the fluorescein suspension in an anhydrous organic solvent.

59. (New) The method of claim 58, wherein the addition of hydrochloric acid is effected by sparging gaseous hydrochloric acid into the fluorescein suspension.

60. (New) The method of claim 58, wherein the hydrous organic solvent is an alcohol, ketone, ether, halogenated solvent, or a mixture thereof.

61. (New) The method of claim 60, wherein the anhydrous organic solvent is isopropanol, absolute ethanol, acetone, or a mixture thereof.